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ABSTRACT

This supplemental report concludes the analysis of data collected in response to a request by the Eugene (Oregon) school board for an assessment of reading instruction in the school district. The first section of the report examines materials and recordkeeping within the schools. Specifically it states what materials are used and how teachers rate them, what records are kept, how often these records are passed from one teacher to another, and where teachers get information about new materials and methods. The section concludes with a discussion about how difficult it is to read the most frequently used reading texts. The second section presents data on school instructional patterns including the number of students in reading groups, how long and how often these groups meet, who provides help to students with reading problems, and the use of scope and sequence materials. The third section provides summary data from classroom observations made during regularly scheduled reading periods; it includes data on both student and teacher behavior as well as on what classroom activities were supposed to be occuring. Appendixes contain a description of a discriminant analysis of the data, a teacher questionnaire, and observation code definitions. A glossary of terms is also included. (FL)

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THE FIRST 'R'

A Report on the Effectiveness of Reading Instruction in the Eugene Public Schools

Volume Two

March 1978

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TABLE OF CONTENTS

List of Tables and Graphs..... iii

Foreword..... v

Acknowledgments..... vii

Summary..... ix

Introduction..... 1

Chapter VI. Materials and Record Keeping..... 3

Question #16 What reading materials are being used? How and when are they being used?

Question #17 Are one or two basic reading programs clearly superior as judged by the phonics, comprehension, and study skills ratings?

Question #18 What kinds of records are used to keep track of student progress?

Question #19 How do teachers learn about new materials and methods to teach reading?

A. Materials..... 3

B. Are Too Many Different Materials Being Used?..... 5

C. Record-keeping Practices..... 5

D. New Methods and Materials..... 8

E. A Comparison of the Actual Reading Difficulty in Basic Reading Series with the Publisher's Designated Level of Reading Difficulty..... 11

Chapter VII. Instruction..... 15

Question #20 If schools group children, how do they group?

Question #21 How are schools identifying children with reading problems and how many are identified?

Question #22 What is done to help children who have been identified as having reading problems and who is helping them?

Question #23 How widely is the district's Scope and Sequence being used?

A. School Reading Instruction Patterns - Students, Groups, and Time Spent Teaching Reading..... 15

B. The Frequency of Reading Problems and the Help Provided..... 17

C. Scope and Sequence Use..... 21

Chapter VIII. Classroom Observation Data..... 23

Question #24 What is the time spent teaching reading? What proportion of a reading period is spent in direct instruction, management time, and non-related activities?

A. How the Data Were Collected..... 23

B. How Data Categories Were Defined..... 24

C. Results..... 25

APPENDIX E. Description of Discriminant Analysis..... 1.

APPENDIX F. Teacher Questionnaire..... 41

APPENDIX G. Observation Code Definitions..... 55

LIST OF TABLES AND GRAPHS

Tables

Table VI-1 Materials Being Used and Teacher Ratings (on a scale from 1-10) of Phonics, Comprehension, Study Skill Effectiveness..... 4

Table VI-2 Records Used to Track Student Progress..... 7

Table VI-3 Source of Information on New Reading Materials/Procedures: Personal References..... 8

Table VI-4 Source of Information on New Reading Materials/Procedures: General References..... 9

Table VII-1 Characteristics of School's Reading Instruction Patterns: Students, Groups, and Time Spent Teaching Reading, January 1977..... 16

Table VII-2 Answers to Question: How Are Schools Identifying Children with Reading Problems and How Many Are Identified?..... 18

Table VII-3 Help Received by Children with Reading Problems, January 1977..... 20

Table VII-4 Percent of Teachers by School Who Report Using Reading Scope and Sequences in Their Instruction, January 1977..... 22

Table VIII-1 How Often Students Were On and Off Task, Spring 1977..... 26

Table VIII-2 How Often Teachers Were Instructing, Organizing for Instruction, or Doing Something Else, Spring 1977..... 26

Table VIII-3 What Kind of Activities Were Going on in the Classroom, Spring 1977..... 27

Table VIII-4 Summary of Observational Data: Shows How Often Students Were On and Off Task Within Different Sub-categories of Teacher Behavior and Classroom Activity..... 28

Graphs

Graph VI-1 Readability Comparison for Ginn and Houghton Mifflin Reading Materials, Grades 1-6..... 10

FOREWORD

The closing sentences of Chapter III of Volume One state that, "this chapter has identified a combination of three variables which significantly distinguish schools who do better than expected on test score results from those schools who do not. This analysis will be continued in Volume Two of the committee's report." These variables were size of school, the request for transfer rate, and time spent teaching reading outside of the regularly scheduled reading class.

Further analysis has shown that size of school and the rate of request for transfers from a school are associated with socio-economic factors.

Three geographic and socio-economic variables were correlated with school size. The schools in the South region of the Eugene district are significantly smaller than the other schools and the schools in the North region of the district are significantly larger than other schools. There is also a negative and significant correlation between the size of a school and a weighted combination of the three socio-economic factors used in Volume One: education, income, and withdrawal rate of the school. Additionally, the elementary schools analyzed here were divided into nine categories, not just the two categories reported, and there was still a negative relation between size of school and reading test outcomes. It is reasonable to infer that size of school does, again, distinguish among schools. However, school size reflects socio-economic conditions rather than being a school characteristic affecting reading achievement scores independent of socio-economic factors.

The request for transfer rate from schools is negatively and significantly correlated with school size and very positively correlated with the school's withdrawal rate. Because of the relations between the request for transfer rate, the size of the school, and the socio-economic factors, it is reasonable to infer that request for transfer rate is also associated

with socio-economic factors. It is reasonable to hypothesize that parents with higher educational levels tend to transfer their children more often.

The third factor discussed in Chapter III of Volume One was the time teachers spent teaching reading outside their regularly scheduled reading period. At the completion of Volume One, outside technical experts urged the Research, Development, and Evaluation (RD&E) Division staff to use longitudinal test data on individualized students after normal or expected student growth is removed from the analysis. These scores are technically called "residualized gain scores." RD&E has data on these kinds of scores for eight hundred fifteen students. Data from the observation study, as reported in Chapter VIII, show that there is a positive and significant relation between the time teachers spent in direct instruction and the student test scores. The effect of socio-economic variables or how much time teachers spent teaching reading is not completely specified since variables correlated with time spent teaching reading, such as the number of reading specialists in a school, are also correlated with socio-economic factors. However, there are two distinct variables measuring the time spent teaching reading which have positive relations to test scores. It is reasonable to hypothesize that the amount of time spent teaching reading affects reading achievement scores.

Other than the time spent teaching reading, are there any other variables which might distinguish among schools? While there are some variables such as, "the percent of teachers following some form of scope and sequence," which are positively and significantly associated with test scores, in general, no other meaningful patterns emerged. Neither classroom instructional patterns nor materials used are systematically associated with test scores.

An intensive statistical analysis of the effect of approximately forty variables on the "residualized gain scores" has not yielded meaningful reasons for the effectiveness of reading instruction.

ACKNOWLEDGMENTS

On October 6, 1975, the Eugene School Board directed Thomas Payzant, Superintendent, to evaluate the district's reading instruction. The board members at this time were Charles Burrows, Samuel Frear, Larry Hughes, Frank Nearing, Ruth Shepherd, Barbara West, and Jonathan West.

The Assistant Superintendent for Research, Development and Evaluation (RD&E), Larry Barber, organized a reading evaluation team consisting of Susan Franklin, Planning Specialist; Leslie Hendrickson, Evaluation Specialist; and Charles Stephens, Research Specialist. The Superintendent also appointed a seven-person advisory committee, the Reading Evaluation Committee, to provide policy and review evaluation results.

The Eugene Education Association was invited to appoint two persons and appointed Lila Padgett, a reading specialist, and Martha Robert, an elementary classroom teacher. After conversations with the Dean of the College of Education of the University of Oregon, Terry Bullock, a professor of education, was appointed. After discussion with school board members, Barbara West, a school board member, was appointed. The Superintendent also appointed Mike Brott, an elementary school principal, Margaret Nichols, the district's Director of Educational Services, and Marge Smith, realtor, who works with the Literacy Council.

RD&E research and evaluation assistants who worked on the project included Juanita Foellinger, Sylvia Hart, Tom Heiry, Rose Hesse, Jeff Meyer, who was responsible for computer data storage and retrieval, Doug Parrish, JoAn Saltzen, Sue Sattel, Martha Simpson, and Mike Wilson.

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Other people acted as consultants. These people identified questions that should be studied, did data analysis, reviewed work that had been done or wrote portions of Volume One or Two. These people included Pat Alvestad, Wes Becker, Roy Forbes, Catherine Lyon, Marty Madden, Paul Randall, Dick Rankin, Betty Jean Shoemaker, Jean Stockard, and Donald Wilt.

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Hy Hops and Tuck Stevens of Northwest Family and School Consultants, Inc., were responsible for designing and carrying out the observation of classroom instruction.

Finally, hundreds of teachers, principals, and other administrators helped by filling out questionnaires and by allowing themselves to be interviewed and/or their classroom to be observed. Draft copies of pertinent sections were reviewed by school librarians, reading specialists and school staffs during staff meetings.

SUMMARY

Two major basic reading series were used in the Eugene school district, Ginn and Houghton Mifflin. Between eight and thirty percent of the teachers did not themselves choose the materials they are using. Thirty-nine different main materials were used by the four hundred teachers. However, some of these materials are used in conjunction with each other and a statistical analysis shows there are ten independent combinations of materials.

Test scores on standardized tests are the most frequently transferred student records; reading skill development records were maintained the most. A continued analysis of data from Volume One shows that existing record-keeping systems can become inefficient when student entry or withdrawal rates are higher than thirty percent. About half the teachers interviewed mentioned that they received information about new reading methods or materials from reading specialists and school librarians. Seventy-five percent of the teachers interviewed stated that they received information about new reading methods or materials by attending district-sponsored workshops or inservice training programs.

An analysis of how hard it is to read Ginn and Houghton Mifflin books shows that these publishing companies do not provide reliable information about how hard it is to read their books. The misleading information provided lowers the effectiveness of the district's reading instruction.

A review of data on classroom instructional patterns shows that: schools with more reading and media specialist time assigned to them had smaller reading groups, met less frequently, and had shorter meetings. The more reading and media specialist time schools had, on the average, the less time classroom teachers spent teaching reading. These arguably unintended results fit into the findings of Volume One about problems in the administration of district reading and media specialists.

Confirming Volume One results, the proportion of students identified by teachers in each school as having reading problems was negatively and significantly correlated with nine variables measuring achievement on reading tests. The higher the proportion of students identified, the lower the average test scores.

Teachers in fourteen schools reported that children with reading problems received help only from a classroom teacher. Teachers in the smaller schools in the South region of the district report using themselves and additional help, such as parent volunteers, more frequently. Schools in other regions report using classroom teachers and/or reading specialists to help children with reading problems.

More than ninety percent of the teachers across all regions report that they are using scope and sequence materials and it is reasonable to infer that the use of these materials has been successfully implemented. A random sample of second, fourth, and sixth grade teachers was selected and observations of their regularly scheduled reading periods were made. Over sixty-eight thousand observations of students were made and students were doing what they were supposed to be doing ninety percent of the time. Over sixty-seven thousand observations of teachers were made and teachers were seen to be directly instructing students seventy-five percent of their time. Observations from different classrooms within the same school were analyzed and found to vary widely. It is reasonable to hypothesize that there is a relation between the time spent teaching reading and reading achievement.

An intensive statistical analysis of selected longitudinal student test scores, and the effect on them of forty other variables, has not yielded much. In future evaluations, better data are needed on individual classrooms and teachers because a lot of information is lost when data for a single school are summarized. This loss of information makes it difficult to identify which classroom instructional patterns are most related to effective reading instruction.

INTRODUCTION

This supplemental report concludes that analysis of data collected during the Eugene school district's look at its reading instruction. Volume One ended with Chapter V and this volume begins, after the Table of Contents and Foreword, with Chapter VI on Materials and Record Keeping.

Chapter VI states which materials are being used, how teachers rate the use of these materials, what kinds of records are being kept, how often these records are passed from one teacher to another, where teachers get information about new materials and methods, and the chapter closes with a discussion on how hard it is to read the most frequently used reading textbooks.

Chapter VII presents data on school instructional patterns: the number of students in reading groups, how long and how often reading groups meet, who provides help to students with reading problems, and the chapter closes with comments on the use of scope and sequence materials.

Chapter VIII provides summary data from the observations made in the classroom during regularly scheduled reading periods. It provides data on both student and teacher behavior as well as what classroom activities were supposed to be occurring.

A glossary is included after the appendixes.

This report uses conservative research reporting procedures. Only conservative inferences have been drawn about the relationship of the many complex factors affecting reading instruction.

CHAPTER VI

Materials and Record Keeping

The Reading Evaluation Committee requested RD&E to send a questionnaire to every teacher who taught reading and ask them about the materials and procedures used in reading instruction. Accordingly, a list of all certified elementary school staff was constructed and examined name-by-name to determine how many people on the list taught a regularly scheduled reading period. Questionnaires were sent to, and received from, four hundred two people.

A. Materials

Each person was asked what main or basic reading materials do you use for the majority of your students?

Thirty-nine different categories of reading materials were named. Teachers were also asked to rate the materials on a scale of zero to ten on how effective the material was for teaching phonics, comprehension, and study skills. Two main materials for full-time reading instruction are being used by most teachers. These are the Ginn and Houghton Miflin reading series, respectively.

One hundred forty-five teachers reported using Ginn, while one hundred twelve teachers used Houghton Mifflin. The number of teachers using each of the other methods drops sharply after the first two. The five next most frequently used are also reported on Table VI-1. They are: DISTAR, used by forty teachers; individualized approach, twenty; Scott Foresman, twenty-five; Lippincott, twenty-three; and Macmillan, fourteen. While a total of thirty-nine methods was reported, only the seven most frequently used are shown in the table. Some materials are used by only one or two teachers.

On a rating scale of one to ten, the Lippincott series, followed by DISTAR, were rated first and second, respectively, in phonics effectiveness. The Macmillan series ranked lowest followed by Scott Foresman in

teaching phonics effectively.

DISTAR was rated as being the most effective in teaching comprehension followed by an individualized approach. Those twenty teachers who are using individual diverse books think this approach teaches comprehension well. The Scott Foresman series ranked lowest.

DISTAR, followed closely by Houghton Mifflin and Lippincott, was judged by teachers to be the most effective in teaching study skills. The Scott Foresman series was rated the least effective.

TABLE VI-1

Materials Being Used and Teacher Ratings (on a scale from 1-10) of Phonics, Comprehension, Study Skill Effectiveness

Materials	Years In Use	Phonics Rating	(Book Parts) Ratings	Study Skills	Full Time Use	No. of Teachers	Percent Chosen By Teachers
	Average	Average	Average	Average			
Ginn	4.05	6.7	6.8	6.5	145.6	196	78.0
Houghton Mifflin	3.36	6.8	7.3	7.0	112.5	148	70.8
DISTAR	2.60	7.6	7.6	7.2	28.4	40	88.7
Individual Diverse Books	4.45	6.7	7.4	6.8	15.2	20	92.0
Scott Foresman	4.3	5.7	6.3	5.8	14.0	25	81.4
Lippincott...	4.4	8.0	7.1	7.0	12.9	23	69.0
Macmillan....	2.8	5.6	6.6	6.3	7.6	14	72.9

B. Are Too Many Different Materials Being Used?

Reading Evaluation Committee members and teachers have asked if too many materials are being used in the district. This is a hard question to answer because of the lack of comparative data on similar sized school districts. This section presents an answer to the question of how many independent patterns underlying material use are found in the elementary schools.

The proportion of teachers in each of the thirty-four schools who used the thirty-nine kinds of materials identified in the teacher questionnaire was calculated. The resulting 34x39 table with its 1,326 entries was analyzed with a "factor analysis." Ten independent factors were found to statistically account for about seventy-five percent of the variation in the materials used by the four hundred two teachers.

The number of underlying patterns can be measured, as shown above, but similar measurements are not available from other school districts.

C. Record-Keeping Practices

Evaluators interviewed one hundred ninety-three classroom teachers. Three questions about record-keeping practices were asked. These questions asked what records teachers received, maintained, and passed on. Table VI-2 presents the answers to these questions.

Standardized test scores are the most frequently transferred student records. Sixty-four percent of the teachers said they received standardized test scores and seventy-six percent report passing them on. More people report sending test scores and more people report receiving them than any other record. A record of the basal readers used by students was reported to be the next most frequently transferred record. The Reading Scope and Sequence scores ranked third in information passed on to teachers at the next grade level.

Teachers reported on which records they maintained. Reading skill development records were maintained by the most. Reading Scope and Sequence scores were second, followed by standardized test scores.

Records of supplementary materials and workbooks used were the least frequently transferred and maintained.

Table VI-2 shows that teachers maintained more records than they received or passed on. This is true for all six categories of records. For example, eighty-two percent of the teachers interviewed reported maintaining reading skill development records on each child. Whereas, fifty-nine percent reported receiving them and sixty-seven percent reported sending them.

Table VI-2 also shows that more teachers report sending records than report receiving them. Evaluators have not taken random samples of students records as they are transferred or maintained and have no measure of actual record-keeping practices.

TABLE VI-2

Records Used To Track Student Progress

		Number of People			Percent of People		
		Yes	No	Oth.	Yes	No	Oth
From teacher in grade below do you receive a record of:	A. Reading Skill Development	113	58	22	59	30	11
	B. Basals Used	117	49	27	61	25	14
	C. Workbooks Used	91	74	28	47	38	15
	D. Supplementary Material Used	91	74	28	47	38	15
	E. Scope & Sequence Scores	97	68	28	50	35	15
	F. Standardized Test Scores	124	40	29	64	21	15
Do you maintain a record of:	A. Reading Skill Development	159	27	7	82	14	4
	B. Basals Used	152	35	6	79	18	3
	C. Workbooks Used	131	56	6	68	29	3
	D. Supplementary Materials Used	138	46	9	72	24	5
	E. Scope & Sequence Scores	157	31	5	81	16	3
	F. Standardized Test Scores	155	31	7	80	16	4
Do you pass on to teacher in next grade level a record of:	A. Reading Skill Development	130	49	20	67	25	10
	B. Basals Used	137	33	23	71	17	12
	C. Workbooks Used	110	60	23	57	31	12
	D. Supplementary Materials Used	107	59	27	55	31	14
	E. Scope & Sequence Scores	133	41	19	69	21	10
	F. Standardized Test Scores	146	26	21	76	13	11

D. New Methods and Materials

The purpose of this section is to answer the question "How do teachers learn about new materials and methods to teach reading?"

The one hundred ninety-three teachers interviewed were asked, "What are the ways in which you obtain information on new reading materials and reading procedures?" Their responses to this question were analyzed in two different ways; by classifying references to other people and by classifying non-people sources of information.

Table VI-3 lists the personal references in rank order. Since teachers often mentioned more than one person, the sum of the responses is greater than the number of teachers interviewed.

TABLE VI-3

Source of Information on New Reading Materials/Procedures: Personal References

Sources	Number of Responses	Percent of Teachers Interviewed Who Mentioned This Source
Reading specialist/school librarian	92	47.67
Other teachers, both at the school and from other schools	75	39.25
Consultants and/or trainers	12	6.22
Textbook salespeople	12	6.22
Principal	11	5.70
Curriculum associate or specialist	6	3.11

About half the teachers interviewed mentioned that they received information from reading specialists and school librarians.

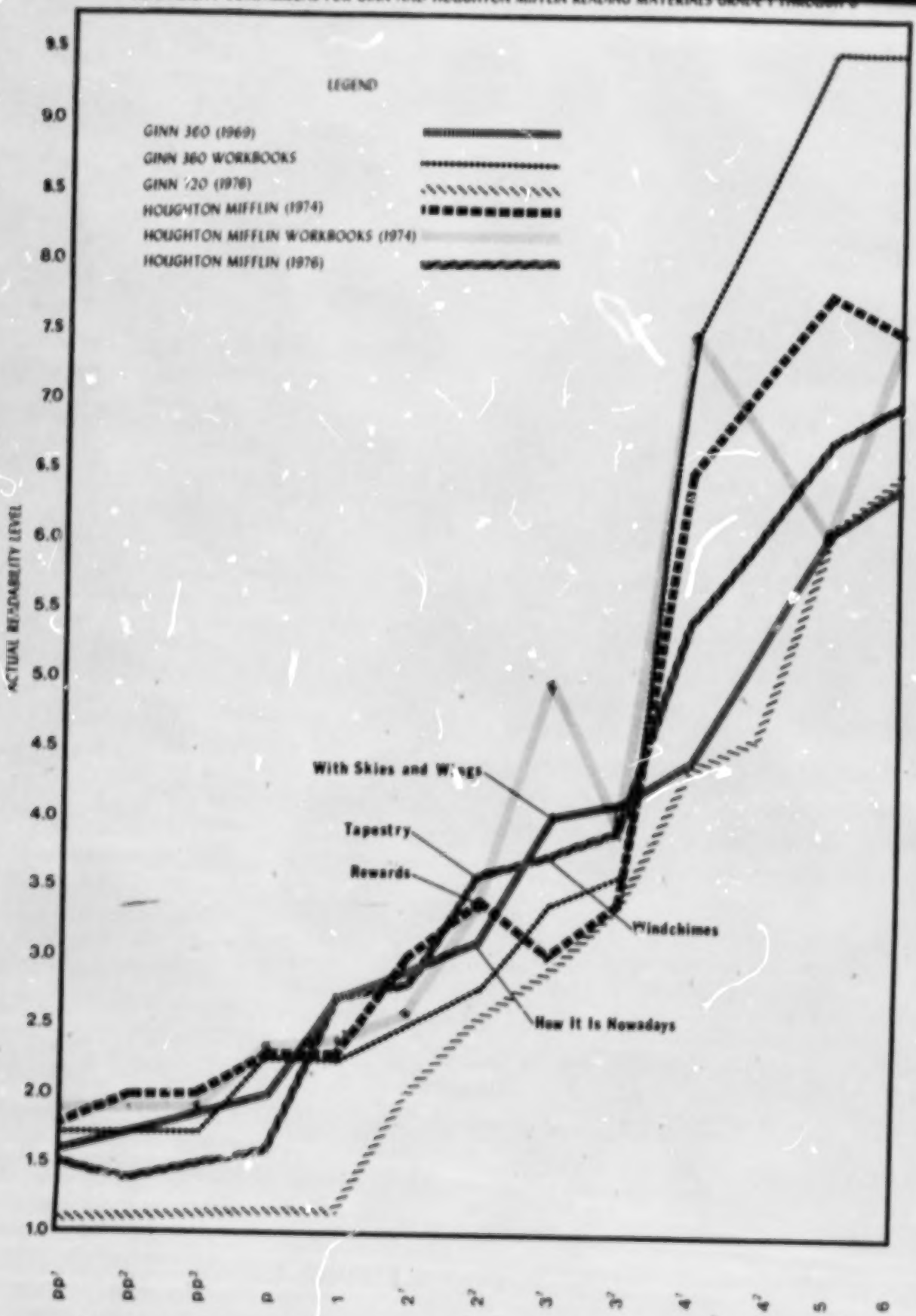
Table VI-4 lists the non-people references in rank order by category. Again, the total number of responses is greater than the number of teachers interviewed because teachers often gave several responses.

TABLE VI-4

Sources of Information on New Reading Materials/Procedures:
General References

Sources	Number of Responses	Total by Category	Percent of Teachers Interviewed Who Mentioned This Category N=193
School District/IED			
Workshops/Inservice	89		
4J Media Library/Central Office	16		
IED Classes/Book Fairs	13		
In-school information	12		
Visitations	8		
District Bulletins/Announcements	7	145	75.13
Publishers/Book Companies			
Fairs: book, trade, materials	18		
Workshops, demonstrations, presentations	17		
Mailed advertising, brochures, catalogs	41	76	39.37
Professional Literature			
Journals, periodicals	54		
Books	17	71	36.78
University of Oregon			
Meetings, classes, Division of Continuing Education	32	32	16.58
Professional Associations			
International Reading Association	13		
Conferences/Conventions	7		
National Education Association	1	21	10.88

READABILITY COMPARISONS FOR GINN AND HOUGHTON MIFFLIN READING MATERIALS GRADE PP1 THROUGH 6



Workshops and inservice training were the most frequently mentioned non-people source of information. Approximately seventy-five percent of the teachers interviewed mentioned receiving information from the district about new reading methods or materials.

E. A Comparison of the Actual Reading Difficulty in Basic Reading Series With the Publisher's Designated Level of Reading Difficulty.

The included graph, on page 10, shows the readability levels of books of two major reading textbook publishers. It compares actual readability levels of the textbooks published by Ginn and Houghton Mifflin. It shows how the actual readability levels compare with what the publishers say their readability levels are.

Data on actual readability levels were obtained from Britton and Associates, Inc., and district staff. The following readability formulas were used:

Britton and Associates

1. Spache (Grades 1-3) 1974 revision
2. Harris-Jacobson (p. 8) 1975
3. Fry (1-3) 1975
4. Dale-Chall (4-16) 1948
5. Flesch (5-17) 1948 revision of 1943 formula

District Staff

1. Spache (1-3)
2. Fry (4-6)

The graph includes data on the following textbook series and workbooks:

1. Ginn 360 (1969)
2. Ginn 360 workbook (1969)
3. Ginn 720 (1976)
4. Houghton Mifflin (1974)
5. Houghton Mifflin workbooks (1974)
6. Houghton Mifflin (1976)

An analysis of the graph shows:

1. Ginn 720 appears to be the most uniform, as well as generally the least difficult, in terms of readability.

2. The Ginn 360 workbooks in the fourth, fifth, and sixth grades are more difficult than their accompanying reader. The Houghton Mifflin 1974 third and fourth workbooks are also more difficult than their respective readers.

3. The fourth, fifth, and sixth grade Houghton Mifflin 1974 readers have actual readability levels which are substantially higher than the publisher's level: 6.5, 7.7 and 7.5 respectively.

4. The range of materials used in some first grade classrooms includes pre-primers, primers, and first grade books. There is a full grade level difference between the Houghton Mifflin 1976 primer and the first readers. There is a comparable increase in difficulty between the Ginn 720 first and the low second grade readers.

There are, therefore, difficulties in deciding what material is most appropriate for individual children. Suppose, for example, a student has completed the Ginn 360 high second grade reader, How It Is Nowadays, with an actual readability level of 3.2. What might be an appropriate text to give the child next, based on actual readability? Some possibilities are:

1. Houghton Mifflin (1974) Rewards. This is a text designed by Houghton Mifflin to be used as the high second grade reader and it has an actual readability level of 3.4.

2. Houghton Mifflin (1976) Tapestry. This is also the high second grade reader and has a readability level of 3.6.

3. Houghton Mifflin (1976) Windchimes. This is a beginning third grade reader and its readability level is 3.7.

4. Ginn 360 With Skies and Wings. This is the next book in the Ginn series and is the beginning third grade reader.

The actual readability levels of all of these books is higher than How It Is Nowadays. However, two of these books, Rewards and Tapestry, have the same publisher's readability as How It Is Nowadays, which the student has just finished. The graph on page 10 shows these three books

are all high second grade readers and by inference, have the same publisher's readability level. A student would probably not be placed in Rewards or Tapestry because teachers would observe they had the same designated publisher's readability level. If a student was placed in the next book in the Ginn 360 series, With Skies and Wings, the actual readability problems encountered are almost a full grade level above the completed book. This is the largest increase of the four placement possibilities mentioned.

The observations described above suggest that procedures used by the Houghton Mifflin and Ginn publishers to determine readability levels are not uniform. The lack of uniformity presents problems to teachers and students. A study of data from the Churchill region shows that these problems affect the quality of reading instruction provided by teachers.

CHAPTER VII

Instruction

A. School Instruction Pattern, - Students, Groups, and Time Spent Teaching Reading

All four hundred two people who taught a regularly scheduled reading class were sent a questionnaire. Teachers were asked to provide data about how many reading groups they had, how many students were in each reading group, how long these reading groups met, and how frequently they met. This section summarizes the results of these questions.

Nineteen of the district's schools reported having three or more reading groups per teacher, and the district average was approximately three groups per teacher. The average number of students per reading group ranged from a high of thirteen and one-half to a low of four. The average number of students per reading group in the district was approximately seven. The reported range in the average number of minutes per week spent teaching reading per reading group was from two hundred sixty-three to fifty-eight minutes with the district average approximately one hundred twenty minutes.

While the district average for the number of meetings per group per week was approximately four, the range among the individual schools was from approximately six to two and one-half meetings per week.

The number of students per teacher was reported as a high of thirty to a low of approximately thirteen, with the district average reported as twenty-two and one-half. This figure is a measure of the student load that teachers have in their reading instruction.

The average number of minutes per meeting per reading group per week ranged from approximately forty-seven to seventeen minutes, with a district average of about twenty-eight and one-half minutes.

TABLE VII-1

Characteristics of School's Reading Instruction Patterns: Students, Groups and Time Spent Teaching Reading, January 1977

	Average Number Of Reading Groups Per Teacher January 1977	Average Number Of Students Per Reading Group January 1977	Average Number Of Minutes Per Reading Group Per Week January 1977	Average Number Of Meetings Per Group Per Week January 1977	Number Of Students Per Teacher January 1977	Average Number Of Minutes Per Meeting Per Reading Group Per Week January 1977
Adams	3.60	07.28	110	4.15	26.21	24.10
Aubrey Park	3.65	06.56	058	2.97	22.83	19.53
Bailey Hill	3.60	05.88	120	4.46	21.17	26.90
Coburg	3.43	08.50	136	4.75	29.16	28.63
Condor	5.00	05.20	165	3.90	26.00	42.31
Crest Drive	3.50	06.36	089	3.39	22.26	26.25
Dunn	3.00	08.62	155	4.83	25.86	32.09
Edgewood	3.12	07.43	084	3.12	23.18	26.92
Edison	3.67	05.50	077	3.23	20.19	23.78
Ellis Parker	2.45	08.48	115	4.68	20.78	30.98
Fox Hollow	3.14	06.36	123	4.56	19.97	26.97
Frances Willard	3.18	04.00	070	4.03	12.72	17.37
Gilham	3.50	06.14	091	4.02	21.49	22.64
Harris	2.27	10.52	202	4.32	23.88	46.76
Howard	3.00	08.00	145	4.41	24.00	32.88
Ida Patterson	3.14	06.59	086	2.80	20.69	30.71
Laurel Hill	3.67	05.64	156	5.00	20.70	31.20
Lincoln	2.50	06.40	099	3.50	16.00	28.28
McCornack	4.54	05.97	084	3.42	27.10	24.56
Meadow Lark	1.56	13.36	263	5.43	20.84	48.43
River Road	3.13	09.52	150	5.35	29.80	28.04
Santa Clara	3.00	07.75	150	4.85	23.25	30.93
Silver Lea	2.29	07.97	115	3.71	18.25	31.00
Spring Creek	4.73	04.67	064	3.64	22.09	17.58
Stella Magladry	2.00	10.10	201	5.75	22.22	34.96
Twin Oaks	2.80	08.54	138	4.29	23.91	32.17
Washington	4.05	05.22	070	3.31	21.14	21.14
Westmoreland	3.27	06.29	098	4.02	20.57	24.38
Whiteaker	3.10	05.26	207	6.21	16.31	39.77
Willagillespie	3.06	07.33	133	4.41	22.43	30.16
Willakenzie	1.92	09.25	147	5.60	16.84	26.25
Condon Arts	2.00	09.75	180	4.00	19.50	45.00
Eastside	4.33	05.69	077	2.62	24.54	29.39
Traditional Alt	3.67	05.82	112	4.70	21.36	23.83
REGIONAL MEANS:						
Churchill	3.45	06.74	107	3.94	23.25	27.14
North	3.34	06.81	103	4.00	22.75	25.75
Sheldon	2.91	07.39	121	4.23	21.50	28.60
South	3.93	07.39	139	4.16	22.39	33.41
District	3.19	07.05	117	4.08	22.49	28.68

The data in Table VII-1 were correlated with the number of reading and media specialist positions that each school had. The amount was expressed in FTE units, where one FTE is equal to a full-time position.

The average number of minutes each reading group met weekly was negatively and significantly correlated with the number of reading and media specialists. The more reading and media specialist time schools had, on the average, the less time classroom teachers spent teaching reading.

The number of times per week that reading groups met was also negatively correlated with the specialist's time. The more specialist's time schools had, on the average, the less frequently reading groups met.

The observations in this section can be interpreted positively or negatively. On the one hand, these results show that reading and media specialists help teachers by working with children who have problems and by providing teachers with more time to teach other subjects or time to work with other students. On the other hand, the use of specialists in schools might be supplanting instead of supplementing classroom instruction. These results are arguably unintended and fit into the findings of Volume One of this evaluation about administrative problems in this area.

The average number of reading groups per teacher was correlated with the school's test scores and found to be unrelated.

B. The Frequency of Reading Problems

The Reading Evaluation Committee wished to find out how many children have reading problems in the district. The questionnaire sent to teachers asked each teacher, "How many children in your classroom have you identified as having reading problems?" The committee also wished to know who is helping children after they have been identified. The following data should be interpreted cautiously since the questionnaire to teachers did not define what "reading problems" were. It was not possible to obtain agreement among consultants and references as to what constitutes a reading problem.

Table VII-2 shows that the proportion of district students identified as having reading problems ranged from approximately forty-five to seven

TABLE VII-2

Answers To Question: How Are Schools Identifying Children With Reading Problems and How Many Are Identified?

	Percent of Students by School Identified by Teachers as Having a Reading Problem Jan. 1977	Percent of Teachers by School Who Said They Used Only Teacher Judgement to Identify Children	Percent of Teachers by School Who Said They Only Test to Identify Children	Percent of Teachers by School Who Said They Used Both Test & Teacher Judgement to Identify Children
Adams	15.06	11	0	89
Aubrey Park	25.72	26	9	65
Bailey Hill	20.44	20	13	67
Coburg	17.37	17	17	67
Condon	7.00	75	0	25
Crest Drive	18.48	22	0	78
Dunn	11.75	33	17	50
Edgewood	14.39	17	22	61
Edison	16.46	17	17	67
Ellis Parker	11.65	20	10	70
Fox Hollow	9.94	63	13	25
Frances Willard	30.11	9	27	63
Gilham	18.92	6	21	71
Harris	15.28	0	33	67
Howard	23.36	11	42	47
Ida Patterson	22.90	14	0	86
Laurel Hill	36.59	0	20	80
Lincoln	20.50	44	11	44
McCornack	19.13	0	23	77
Meadow Lark	18.90	17	17	65
River Road	28.81	0	18	82
Santa Clara	11.14	25	0	75
Silver Lea	24.35	31	6	63
Spring Creek	23.30	38	33	29
Stella Magladry	8.86	50	0	50
Twin Oaks	17.39	22	22	56
Washington	19.80	6	17	78
Westmoreland	24.73	27	13	60
Whiteaker	45.31	9	54	27
Willagillespie	19.21	0	18	82
Willakenzie	35.86	9	18	73
Condon Arts	13.48	67	33	0
Eastside	7.75	25	25	50
Traditional Alt	15.05	33	0	67
REGIONAL MEANS:				
Churchill	18.00	20.46	7.89	70.00
North	22.79	21.83	18.00	60.16
Sheldon	21.68	9.00	21.43	72.67
South	18.46	21.11	21.69	48.38
District	20.36	22.47	16.74	60.47

percent with a district average of about twenty percent. Most of the reporting teachers, sixty percent, reported using both their judgment and diagnostic tests to identify these students. About seventeen percent, on the average, used only the diagnostic test results and twenty-two percent, on the average, used only their judgment.

The proportion of students identified by teachers in each school as having problems was negatively and significantly correlated with nine variables measuring achievement on reading tests. The higher the proportion of students identified the lower the average test scores.

Who Provides the Help to Students With Reading Problems?

Each of the teachers was asked who provides the help and one or more of four answer categories could be chosen. The proportion of teachers in each school who chose the categories is shown in Table VII-3.

Teachers in fourteen schools reported that children with problems received help only from a classroom teacher. The proportion of teachers in these schools who checked this category ranged from two-thirds to about eight percent. Teachers in seven schools reported that children received help from the reading specialist only. The range of teachers responding was narrow. The highest percentage was approximately fourteen, the lowest five. Teachers at twenty-seven schools reported using the combined help of classroom teachers and reading specialists. "Classroom and additional help" were reported used in twenty-six schools. The range percentage in both these reporting categories is large.

Three of the four regions of the district reported using classroom teachers and reading specialists the greatest percentage of the time. Teachers in the South region, however, reported using themselves and additional help such as parent volunteers more frequently. A set of events appears to account for this. Schools in the South region are smaller and consequently have fewer reading specialists. Moreover, the educational level of the population around South region schools is significantly higher than the level in the other regions. This set of events produces situations in which students with reading problems in South region tend to receive help from people other than reading specialists.

TABLE VII-3

Help Received by Children with Reading Problems
January 1977

	Percent Of Teachers By School Who Answered "Classroom Teachers Only" Jan. 1977	Percent Of Teachers By School Who Answered "Reading Specialist Only" Jan. 1977	Percent Of Teachers By School Who Answered "Classroom And Reading Specialist" Jan. 1977	Percent Of Teachers By School Who Answered "Classroom And Additional" Jan. 1977	Percent Of Teachers By School Who Answered "All Three" Jan. 1977
Adams	0.0	0.0	66.7	0.0	33.3
Aubrey Park	8.7	0.0	52.2	0.0	39.1
Bailey Hill	0.0	0.0	53.3	13.3	20.0
Coburg	0.0	0.0	14.3	14.3	42.9
Condon	0.0	0.0	0.0	99.9	0.0
Crest Drive	22.2	0.0	33.3	11.1	33.3
Dunn	0.0	0.0	33.3	22.2	22.2
Edgewood	11.1	5.6	22.2	33.3	27.8
Edison	14.3	0.0	0.0	57.1	28.6
Ellis Parker	0.0	9.1	45.5	27.3	18.2
Fox Hollow	0.0	0.0	62.5	12.5	25.0
Frances Willard	0.0	0.0	81.8	9.1	9.1
Gilham	0.0	0.0	64.3	21.4	7.1
Harris	18.2	0.0	36.4	36.4	9.1
Howard	31.6	5.3	10.5	21.1	26.3
Ida Patterson	14.3	14.3	14.3	0.0	28.6
Laurel Hill	0.0	0.0	40.0	[illegible]	60.0
Lincoln	0.0	0.0	66.7	0.0	33.3
McCornack	0.0	0.0	69.2	23.1	7.7
Meadow Park	0.0	0.0	77.8	0.0	16.7
River Road	0.0	0.0	35.3	17.7	47.1
Santa Clara	35.3	0.0	17.7	23.5	17.7
Silver Lea	11.1	5.6	50.0	0.0	11.1
Spring Creek	18.2	0.0	50.0	13.6	18.2
Stella Magladry	33.3	0.0	0.0	66.7	0.0
Twin Oaks	20.0	0.0	50.0	0.0	10.0
Washington	0.0	0.0	73.7	5.3	21.1
Westmoreland	0.0	13.3	60.0	6.7	20.0
Whiteaker	0.0	0.0	9.1	90.9	0.0
Willagillespie	0.0	0.0	0.0	43.8	31.3
Willakenzie	0.0	9.1	18.2	18.2	45.5
Condon Arts	0.0	0.9	0.0	66.7	0.0
Eastside	66.7	0.0	0.0	33.3	0.0
Traditional Alt	66.7	0.0	0.0	33.3	0.0
REGIONAL MEANS:					
Churchill	17.4	3.1	31.9	17.1	13.6
North	17.5	1.8	36.0	12.7	26.6
Sheldon	0.0	1.5	41.4	17.2	27.4
South	8.5	1.2	30.6	37.6	18.0
District	10.9	1.9	35.0	21.2	21.4

The percent of teachers who answered that children received help from "classroom and reading specialists" was negatively and significantly correlated with the percent of teachers who answered "classroom and additional help." Apparently, this is an either/or situation. Either children with problems receive help from reading specialists or other people are used.

C. Scope and Sequence Use

Teachers at all schools reported using some kind of reading scope and sequence. The Barbe and district scope and sequence materials are used with different reading programs. Basal scope and sequences are different because they are designed to be used with a particular basal reading series.

All teachers at eighteen schools reported using scope and sequences. On the average, approximately ninety-four percent of the teachers said they used a scope and sequence. Teachers at twenty-one schools reported using the district's scope and sequence and teachers at ten schools used the scope and sequence accompanying their basal reading series. More than ninety percent of the teachers across all regions are using scope and sequence materials and it is reasonable to infer that the use of scope and sequence materials has been successfully implemented.

TABLE VII-4

Percent of Teachers by School Who Report Using Reading Scope and Sequences in Their Instruction, January 1977.

	Percent Using 4J Scope & Sequence	Percent Using Barbe Scope & Sequence	Percent Using Basal Reader Scope & Sequence	Percent Using Some Kind of Reading Scope & Sequence
Adams	50	0	50	99
Awbrey	47	39	8	99
Bailey Hill	60	0	20	93
Coburg	71	0	28	99
Condon	0	0	0	99
Crest Drive	55	11	33	99
Dunn	55	0	44	99
Edgewood	61	0	22	83
Edison	28	0	71	99
Ellis Parker	45	0	36	91
Fox Hollow	12	0	87	99
Frances Willard	36	0	45	82
Gilham	42	0	50	93
Harris	54	0	45	99
Howard	52	0	15	89
Ida Patterson	42	28	14	86
Laurel Hill	80	0	20	99
Lincoln	55	0	22	78
McCornack	7	7	84	99
Meadow Lark	66	0	22	94
River Road	58	0	41	99
Santa Clara	29	0	64	88
Silver Lea	61	0	11	89
Spring Creek	72	0	27	99
Stella Magladry	0	0	83	99
Twin Oaks	80	0	20	99
Washington	57	0	36	89
Westmoreland	26	0	60	87
Whiteaker	54	0	27	91
Willagillespie	43	0	56	99
Willakenzie	27	0	72	99
Condon Arts	33	0	0	99
Eastside	50	16	0	80
Traditional Alt	33	0	33	67
REGIONAL MEANS:				
Churchill	39.2	5.1	44.1	92.0
North	53.2	6.5	27.7	93.9
Sheldon	51.0	0.0	44.0	95.5
South	43.3	1.2	32.2	92.2
District	46.7	3.2	37.0	93.4

CHAPTER VIII

Classroom Observation Data

The Reading Evaluation Committee asked that observations of randomly selected classrooms be carried out in order to determine how much time of a reading period was spent actually teaching and studying reading. This chapter describes how classroom observations were made, the categories used in the coding of observations, and the relevance of these data in studying students' reading achievement.

A. How the Data Were Collected

The classrooms selected for observation were chosen in a random manner. Approximately twenty-six percent of the teachers within each of the three grades studied were selected. The method of selection guaranteed that all teachers would have an equal probability of being selected and that each grade level and region would be equally represented. A total of seventy-two teachers and their classrooms were selected from the thirty-four schools. The method of selection involved listing all teachers in the district who taught second, fourth, or sixth grade. Teachers who taught in more than one grade level were eliminated from all but one grade level on an alternating basis. This ensured that the proportion of teachers eliminated from each of the three grades was approximately the same for each school. The teachers whose classrooms would be included in the study were randomly selected using a table of random numbers, and an alternative list of teachers was also selected by the same procedure. The number of teachers selected from each grade level with a region was fixed at approximately twenty-six percent of the total teachers for that grade level within a region.

Regularly scheduled reading periods of each teacher and classroom selected were observed by trained observers four times during Spring 1977.

Previous research on classroom observations indicates that data obtained from observing more than four periods are not significantly different than data obtained from observing only four reading periods. That is, the averages obtained based on four observation periods are not significantly different from the averages obtained by observing more periods.

The process used by observers was that within a ten-second time interval the observer recorded the teacher's behavior for five seconds and then for the remaining five seconds of that period recorded the behavior of a student. Each student was systematically observed in a given order around the room. The students were not aware when they were being individually observed, although they were aware that an observer was in the room. The recording process lasted for the length of the reading period. Classrooms were observed only during the regularly scheduled periods, however long the period was.

B. How Data Categories Were Defined

The observation codes and their definitions are described in detail in Appendix G. The teachers' behaviors were coded into three possible categories. The three codes were designed to show how the teachers divided their time while teaching reading. In each five-second interval in which the teachers were observed, the observers would note one of the following possible behaviors:

a) Teacher was involved in direct instruction of students--This included any activity in which the teacher presented information or tasks to students, elicited responses from students, or provided consequences, rewarding or punishing, for students' responses. The activity had to be related directly to reading.

b) Teacher was involved in management behavior--This included any activity in which the teacher did not directly instruct students, but was involved preparing for direct instruction or assigning students reading tasks to complete.

c) Teacher was involved in activities which did not involve direct instruction or management--This is an all-other category of activities including discipline, administration, conversations with others in the room, and the doing of more reading related activities.

Two separate sets of codes were used for student behaviors. The first was a code of whether the student was on task or off task. On task behaviors were those which were given or approved of by the teacher and were directly related to reading. Off task behaviors were those which were not given or approved of by the teacher including disruptive behaviors as well as inattention or attention to matters other than reading. In addition to the on/off task code, the student's behavior was coded as falling in one of the following four categories:

a) Direct instruction--This included any activity in which the student responded to the teacher's giving information or tasks to the student. The activity had to be related to reading. This code should generally correspond to the teacher's direct instruction behavior.

b) Transition--This included any activity in which the student was preparing for direct instruction or for independent work including time spent waiting or getting materials.

c) Independent work--This included any activity in which the student was not being directly supervised and had been given reading tasks to complete by him or herself.

d) Completing non-reading tasks--This included behavior that would generally be coded on task, but was work on some subject matter other than reading.

C. Results

Tables VIII-1, VIII-2, and VIII-3 show the results obtained from the observations. The number of observations will differ slightly from table to table, such as the differences in student observations in Tables VIII-1 and VIII-3, because of missing data for some observations. Table VIII-1 shows the number and percent of time across all observations that students were seen to be on or off task. Over sixty-eight thousand observations

of students were made and students were doing what they were supposed to be doing ninety percent of the time.

TABLE VIII-1

How Often Students Were On and Off Task - Spring 1977

		Number of Observations	Percent of Observations
Student Behavior	On task	61,326	89.2
	Off task	7,358	10.8
		68,684	100.0

Table VIII-2 shows the number and percent of time across all observations of teachers that teachers were observed to be directly instructing, managing, or doing something else. Over sixty-seven thousand observations of teachers were made and teachers were seen to be directly instructing seventy-five percent of the time.

Table VIII-2

How Often Teachers Were Instructing, Organizing for Instruction, or Doing Something Else - Spring 1977

		Number of Observations	Percent of Observations
Teacher Behavior	Direct Instruction	51,123	75.9
	Management Activities	7,278	10.8
	Other	8,946	13.3
		67,347	100.0

Table VIII-3 shows the planned classroom activity students were doing when they were observed. Only three percent of the observations were of situations where the time set aside for reading was being used for some other purpose.

Table VIII-3

What Kind of Activities Were Going on in the Classroom

Spring 1977

	Number of Observations	Percent of Observations
Direct Instruction	19,908	29.0
Preparation Time	4,349	6.4
Individual Work	42,339	61.7
Non-Reading	2,017	2.9
	68,613	100.0

Table VIII-4 summarizes the observational data. It takes each of the four categories of classroom activities and looks at what behaviors teachers and students were doing. The number of observations by categories for each kind of classroom activity are a bit different from the numbers in Table VIII-3, again, because of missing data for some subcategories. Students were approximately ninety-nine percent of the time most likely to be on task when engaged in non-reading activities approved by the teacher and least likely to be on task eighty-six percent of the time when working individually. Except for when students were involved in preparing for work, they were somewhat more likely to be on task when the teacher was involved in activities other than direct instruction or management.

TABLE VIII-4

Summary of Observational Data: Shows How Often Students Were On and Off Task Within Different Sub-Categories of Teacher Behavior and Classroom Activity

		Percent of Observations That Student Behaviors Were		Total Number of Observations
		On Task	Off Task	
Activity: Direct Instruction				
Teachers Behavior	Direct Instruction	93.7	6.3	18,165
	Management Activities	91.4	9.6	432
	Other	97.6	2.4	971
	Total	93.7	6.1	19,568
Activity: Preparation Time				
Teachers Behavior	Direct Instruction	95.8	4.2	480
	Management Activities	93.8	6.2	3,577
	Other	92.6	7.4	245
	Total	94.0	6.0	4,302
Activity: Individual Work				
Teachers Behavior	Direct Instruction	86.1	13.9	31,194
	Management Activities	86.8	13.2	3,066
	Other	86.1	13.9	7,189
	Total	86.1	13.9	41,499
Activity: Non-Reading				
Teachers Behavior	Direct Instruction	98.8	1.2	1,243
	Management Activities	98.9	.2	182
	Other	99.0	1.0	529
	Total	98.9	1.1	1,954

Because the sample was randomly chosen, these results may be legitimately seen as representative of all second, fourth, and sixth grade classrooms and teachers in the district.

The data on reading achievement discussed in this volume is available only on a school-by-school basis. To use the observational data obtained in classrooms to explain reading achievement, it is necessary to group the data for each school. To legitimately group these data, however, we must determine that the classrooms observed within a school are indeed similar. If the observations from one classroom to another within a school do not differ more than would be expected by chance, then we may generalize from the classroom observations to each school. However, if the observations in the classrooms within a school differ more than would be expected by chance, we cannot legitimately make such generalizations.

Twenty-two schools in the district had more than one classroom observed. Within each of these schools the observations in each classroom were compared.

A chi-square test, an inferential statistic that compares the actual distribution observed to that which would occur by chance, was computed for each school. The results of this test can be used to find the probability that the differences observed between the classrooms would occur by chance.

While there was more similarity among student behavior than teacher behavior within a school, all the schools had so much variation that any generalizations from classrooms to schools would be unwarranted. For instance, nineteen of the twenty-two schools, approximately eighty-five percent, had differences in the behavior of teachers that would occur less than one time in ten thousand by chance. Seventeen of the twenty-two schools, approximately seventy-five percent, had differences in the students on off-task behavior between classrooms that would occur less than one out of one hundred times by chance.

Because there are such differences among the classrooms within a school, much information is being lost when these combined scores are used to analyze school-by-school differences in reading achievement.

It was possible to compare the fourth and sixth grade scores of eight hundred fifteen students, based on their fourth grade scores using 1974-75 data. Using procedures obtained from the test publishers it is possible to state what the students sixth grade scores should be if normal growth took place. These predicted sixth grade scores were compared to the students normal sixth grade scores in twenty-seven of the thirty-four elementary schools for which data were available.

The proportion of students, by school, who scored better than predicted was correlated with the percent of time by school that teachers were observed to be in direct instruction. There was a significant and positive correlation, .51, between the two figures. The data should be treated cautiously because of the known variation within schools and the small size of the sample. However, based on these data, it is legitimate to hypothesize that there is a relation between the time spent teaching reading and reading achievement.

There are data available on the reading achievement of the eleven hundred students observed. It is possible to do further analyses looking at how the behavior of students and teachers relates to students' scores on achievement tests. This may be the best way in which the observational data can be used. The school district's Research, Development, and Evaluation Division will solicit proposals from interested researchers for further analyses of data collected during the evaluation.

TABLES

Appendix E

Table E-1 Lists Group Assignments, Probabilities and Scores 39

Table E-2 Compares the Two Methods of Assigning Schools to Groups..... 38

Appendix E

Description of Discriminant Analysis

This appendix contains the technical analysis underlying the work presented in Chapter III of Volume One. A multiple regression analysis was performed on each of the nine indicators of student performance. Three social-economic variables were used as the independent variables for each regression run. Two of the variables, average family income and the percentage of adults with four or more years of college education, were computed for each school's attendance area, using data from the 1970 U. S. census. The percentage of students in each school who withdrew during the 1976-77 school year was determined from the consolidated classification report. The formula used to calculate withdrawal was reviewed by another district office.

Both education and income are standard sociological indicators of social status. The withdrawal rate is an index of migration during the school year, also generally associated with social status. In this sample, the withdrawal rate was significantly associated with measures of both education and income.

Residuals, which are the difference between observed test scores and test scores predicted on the basis of the three variables, were determined for each of the regression runs. If a school performed better than predicted, the school was assigned a performance score of +1 for that regression run. If the residual for a school was less than zero, the school was assigned a performance score of -1. The performance scores for each school and each regression run are shown in Table III-1 in Volume One.

The performance scores for each school were summed for all regression runs. If the resulting sum was greater than zero, that school was placed in Group 2. If the sum was less than zero, the school was placed in Group 1. The group assignment for each school is also shown in Table III-1.

Discriminant analysis was used to determine those variables providing maximum discrimination between members of the two groups. A stepwise method was used which selects the variables to be entered into the analysis on the basis of their discriminating power. The criterion for selection was the Maximum F Method, which maximizes the minimum F ratio between the two groups.

Both variables were associated with the size of the school. Larger schools tended to have more specialist time assigned to them. The number of library books as of June, 1976, and total size of the teaching staff were considered for inclusion, but omitted because of their very high correlation with the student body size.

Partial F means the likelihood ratio of equality on the variable being tested over the groups--given the distribution produced by the variables already entered.

Four variables were selected as measures of the quality of the school's reading instruction organization. The first was an index of organizational continuity. This index was created by evaluators and attempted to measure the continuity, communication and program planning of the school's reading instruction. The average number of years of teaching experience of the teachers in each school, the percentage of students who started in the school, and the number of students per classroom teacher were the other three variables in this group. (A measure of the teachers' average number of years experience teaching at their current level was omitted from the final analysis because it was so highly correlated with the teachers' average years of total teaching experience.) The term "quality" was chosen to describe this group of variables to conform to the common assumption that clearer organizational structures, more experienced teachers, smaller classroom size, and fewer requests by students or parents to leave a school all indicate greater quality of the school organization.

Five variables specifically related to the attention each school pays to reading. Two measures of time devoted to reading instruction were used: one an estimate by the teacher of the average minutes in

scheduled reading periods, and the other an estimate of the average minutes devoted to reading instruction outside of regularly scheduled reading periods as of January, 1977. Because measures of time spent in activities are often difficult to accurately obtain special attention was given to verifying the accuracy of these two measures.

Two measures of the average amount of money spent in each school on reading instruction for each student were also used. One measure was for the school year 1975-76 and other was for 1976-77. Reading Evaluation Committee members expressed skepticism about the accuracy of these per-pupil measures for reasons explained in Chapter IV. The final measure in this group was the percentage of teachers in the school in 1976-77 who reported sharing a philosophy regarding the teaching of reading.

While all twelve variables were entered into the analysis, only three significantly added to the centroid separation. These three variables were: 1) student enrollment, 2) minutes the teachers spent in an unscheduled reading period, and 3) request for transfer rate.

The standardized discriminant function was found to be:

$$fi = -.83962 \text{ (student enrollment)} + .55819 \text{ (minutes of unscheduled reading period)} - .79217 \text{ (request for transfer)}$$

The canonical correlation between this discriminant function and the dummy variable defining group membership is 0.609. The canonical correlation is a measure of association between linear combinations of two distinct sets of variables. The canonical correlation in this case is equivalent to a correlation coefficient and its square, and can be interpreted as the variance in the discriminant function explained by the group membership.

The chi-square with three degrees of freedom was 12.729. This translates to a level of significance of .005. This represents the probability that the centroids, or means, of the two groups are actually the same. In other words, the chances are 1 in 200 that the three variables discriminated between the two groups by chance alone.

Table E-1, on page E-5, lists the group assignment and probability of group assignment given the discriminant scores for each school.

A comparison between the group assignment, based on the three discriminating variables (Table E-1), and the group assignment, based on the performance scores (Table III-1), shows agreement of assignment occurred for all but seven schools. Three schools assigned to Group 1 were placed in Group 2 by the discriminant function, and four schools assigned to Group 2 were placed in Group 1. Of the "grouped" cases, 73.18 percent were correctly classified. A breakdown of the prediction results are shown in the figure below.

Table E-2

Compares the Two Methods of Assigning Schools to Groups.

Group Assignment by Performance Scores	Predicted Group Group 1	Group 2
Group 1	13 (81.3%)	3 (18.8%)
Group 2	4 (25.0%)	12 (75.0%)

Table E-1

Lists Group Assignments, Probabilities and Scores

	Group Assignment	The Probability of Group Assignment	Discriminant Scores Predicted By The Function	
Adams.....	2	.557	-0.143	1
Awbrey Park.....	1	.895	1.143	4
Bailey Hill.....	1	.539	0.065	1
Coburg.....	2	.937	-1.489	3
Condon.....	2	.811	-0.810	2
Crest Drive.....	2	.780	-0.706	1
Dunn.....	2	.737	-0.580	2
Edgewood.....	1	.700	0.441	2
Edison.....	2	.913	-1.294	2
Ellis Parker.....	1	.634	0.280	2
Fox Hollow.....	2	.554	-0.136	2
Frances Willard.....	1	.609	0.222	2
Gilham.....	1	.935	1.426	3
Harris.....	2	.676	-0.420	2
Howard.....	1	.894	1.141	4
Ida Patterson.....	2	.724	-0.543	1
Laurel Hill.....	2	.666	-0.395	2
Lincoln.....	1	.981	2.122	2
McCornack.....	2	.717	-0.526	1
Meadow Lark.....	1	.622	0.252	3
River Road.....	2	.753	-0.625	4
Santa Clara.....	1	.829	0.837	4
Silver Lea.....	1	.522	0.028	4
Spring Creek.....	1	.905	1.204	4
Stella Magladry.....	2	.969	-1.888	1
Twin Oaks.....	2	.982	-2.180	1
Washington.....	2	.512	-0.046	3
Westmoreland.....	1	.961	1.715	2
Whiteaker.....	1	.576	0.146	2
Willagillespie.....	1	.718	0.489	3
Willakenzie.....	1	.630	0.269	3
Condon Arts.....	...	...	...	...
Eastside.....	1	.565	0.122	...
Traditional Alt.....	...	...	...	1

Churchill.....	75%	-.5214
North.....	17%	.6213
Sheldon.....	33%	.1502
South.....	50%	.1218

APPENDIX F

Teacher Questionnaire

General information

1. Name of teacher_____
2. School_____
3. Grade level_____
4. How many years have you been teaching?_____
5. How many years have you been teaching at this grade level?

_____

SECTION I

Materials

6. What main or basic reading materials do you use for the majority of your students?

   Please write its name_____

   What is the copyright date of this material?_____

7. How would you rate the overall effectiveness of this material, as compared with other material, for teaching phonic and decoding skills?

0	1	2	3	4	5	6	7	8	9	10
not at all effective										extremely effective

   Why? Please comment on your answer:

8. How would you rate the overall effectiveness of this material, as compared with other materials, for teaching comprehension skills?

0	1	2	3	4	5	6	7	8	9	10
not at all effective										extremely effective

Why? Please comment on your answer:

9. How would you rate the overall effectiveness of this material, as compared with other materials, for teaching study skills such as learning parts of a book, following written directions, interpreting symbols and other study skills listed in the District Scope and Sequence?

0	1	2	3	4	5	6	7	8	9	10
not at all effective										extremely effective

Why? Please comment on your answer:

10. How many years have you been using this material?_____

11. This particular material is used because (check any that are applicable):

_____The staff in my school has an agreement to use it

_____It's all we have available

_____I had a choice. I picked this one because I think it's the best available.

_____I was told to use this particular program

_____Other (please specify)

12. Do you use any supplementary materials besides the materials specified above, such as basal reading series, kits, dittos, etc.?

yes_____ no_____

If yes, what are the kinds and names of these materials, and how frequently do you use them?

Name of material	Publisher's name	Teacher-made material	No of times used per month	For what purpose do you use the material?

13. Approximately what percentage of the total materials you use did you choose yourself?

_____

14. Do you use any equipment in reading instruction? yes_____ no_____

If yes, please supply the following information for all equipment used:

Name of equipment	I use the equipment Y=yes N=no	No. of times used per month	Why do you use or not use the equipment?
16 mm proj			
Filmstrip proj			
Filmstrip viewer			
Tachistoscope			
Controlled reader			
Opaque proj			
OH proj			
8 mm proj			
8 mm film loop			
Slide proj			
Video camera			
Video tape recorder			
Record player			
Listening corners			
Tape recorder			
Cassette recorders			
Cassette player			
Language master			
Camera			

15. In your opinion, does your school have sufficient materials and equipment available to teach reading to students of different reading levels?

0	1	2	3	4	5	6	7	8	9	10
not sufficient										extremely sufficient

Comments:

SECTION II

Reading Instruction Organization

16. Some schools have agreed on a philosophy or plan for teaching reading from 1-6. If your school has such an agreement, briefly discuss it:

17. What elements are in the organizational plan of your reading class? Check more than one if you use them.

_____small groups

_____individualized instruction within a self-contained classroom

_____individualized instruction outside the classroom

_____back-to-back reading

_____ability or performance groups within a self-contained classroom

_____ability or performance groups across classrooms and grades

_____ability or performance groups across classrooms but within a single grade

_____other (please specify)_____

_____

18. If you teach in groups, how many reading groups are within your reading classes? For each group, please write the average number of students in the group and the materials that you use with the group.

	Number of students in group	Number of minutes per week you meet with this group	Number of times per week you meet with this group	Materials used with this group
Group 1	_____	_____	_____	_____
Group 2	_____	_____	_____	_____
Group 3	_____	_____	_____	_____
Group 4	_____	_____	_____	_____
Group 5	_____	_____	_____	_____
Group 6	_____	_____	_____	_____

19. If you divide your class into groups for reading instruction, on what basis are students placed in groups?

_____don't divide
_____ability grouping
_____heterogeneous grouping
_____specific skill deficiency grouping
_____other (please specify)_____
_____
_____

20. How many minutes is your average reading period? _____minutes

21. Approximate number of minutes a child spends receiving direct instruction from teacher:

_____

22. Approximately how many minutes of your reading period does each child spend working independently?

_____

51

23. Approximately how many minutes of each reading period do you spend in directly teaching reading skills to students? By "teaching reading skills," we mean direct and personal interaction between yourself and one or more students. Do not include time spent by you in distributing or collecting materials.

_____minutes per period

24. How many days per week are you scheduled to teach reading?_____

25. Approximately how many minutes per day do you teach reading in classes other than the scheduled period (e.g., study skills, vocabulary)?

_____

26. Do you determine the reading skill level of children at the beginning of the school year?

yes_____ no_____

If yes, what do you use to determine the skill level of children at the beginning of the school year?

_____

_____

_____

_____

27. As the year progresses, how often do you formally recheck the skill level of children?

_____never

_____once during the year

_____twice

_____three times

_____four or more rechecks

_____as needed (please specify)_____

_____

If you check the skill level of children, what material do you use?

_____

_____

28. Do you keep a record of each child's skill development?

yes_____ no_____

If yes, what do you use?_____

_____

SECTION III

Students with Reading Problems

The following questions are specifically about students with reading problems.

29. How are children with reading problems being identified in your classroom? Please check.

	name of test	person giving test
_____test	_____	_____
	_____	_____
	_____	_____

_____teacher judgment

30. How many children in your classroom have you identified as having reading problems?

_____number of children

31. Children with reading problems in my classroom receive help from:

_____classroom teacher only

_____reading specialist only

_____both classroom teacher and reading specialist

_____classroom teacher and additional people

32. In the classroom, do you use the same materials with students who have reading problems as you do with students who don't have problems?

yes_____ no_____

33. If you use other materials, please specify kinds and names of the materials you use with these children.

kind	name

34. Are other people used to help your children with reading problems?

yes_____ no_____

If yes, then please supply the following information:

	Check those people who help	What materials do these people use?	Number of hours per week that these people help
other elementary students			
parents			
reading specialist			
counselor			
other teachers			
University of Oregon students			
other			

SECTION IV

Scope and Sequence

35. Are you following some form of scope and sequence in your reading instruction?

yes_____ no_____

IF YOU ANSWERED "YES" TO QUESTION 35, THEN PLEASE ANSWER QUESTIONS 36-38. IF YOU ANSWERED "NO" TO QUESTION 35, THEN PLEASE ANSWER QUESTION 38.

36. If you answered "yes" to question 35, please indicate which reading scope and sequence you are using (check all applicable).

_____4J Scope and Sequence

_____Fountain Valley

_____Barbe

_____Basal Reader Scope and Sequence

_____Other (please specify)_____

37. If you use the 4J Reading Scope and Sequence, how heavily do you rely on it as a resource for teaching reading skills?

0 1 2 3 4 5 6 7 8 9 10

I don't rely on it — I rely on it heavily

Comments:

38. Are you using the District's Scope and Sequence tests?

yes_____ no_____

If yes, how do you use them?

_____pre and post

_____pre-test only

_____post-test only

_____diagnostic

_____other (please specify)_____

Addendum to Teacher Questionnaire

Name_____

School_____

This question was omitted from Section II of the Teacher Questionnaire:

39. Are additional people used to help teach reading in your classroom?

yes_____ no_____

If yes, then please supply the following information:

	Check those people who help	What materials do these people use?	Number of hours per week that these people help
other elementary students	_____	_____	_____
parents	_____	_____	_____
reading specialist	_____	_____	_____
counselor	_____	_____	_____
other teachers	_____	_____	_____
University of Oregon students	_____	_____	_____
teachers' aides	_____	_____	_____
other (please specify)	_____	_____	_____

APPENDIX G

EUGENE SCHOOL DISTRICT (4J)
READING EVALUATION STUDY
OBSERVATION CODE DEFINITIONS

Teacher Behavior

Direct Instruction (DI)

This category includes teacher behavior, directly related to ongoing reading instruction which requires direct interaction with students, either individually or in a group. The teacher presents information to students, elicits responses from them, or provides feedback to them about the correctness or incorrectness of their reading behavior.

Examples of teacher behaviors coded DI include presenting a lesson to a group or the class, asking a student an academic question, asking a student to read a sentence, word, paragraph, telling a student that his/her response was correct and/or praising him/her, telling a stduent that the response was inaccurate. Feedback does not have to be positive to be coded DI as long as it pertains directly to the reading materials or topic at hand.

Management (MA)

The management category includes teacher behaviors related to the reading activity, that are prerequisites for engaging in reading tasks but not directly involved in the academic tasks *per se*. These tasks are usually carried out in preparation for either direct instruction or independent work by students. Examples of management activities related to reading include giving instructions to students to move to appropriate places in the classroom to engage in reading activities, passing out reading materials to students with instructions to complete them, ensuring that students have appropriate and sufficient materials for their assigned reading tasks, making sure that students are working in the appropriate place in the workbooks or worksheets, directing students to turn

to a certain page number, prompting children to get to work, making contingency statements about the task, e.g., "When you all finish to page 53 we will go out to recess," etc.

Other Activities (OT)

This category refers to all teachers behaviors which are not direct instruction of students or management activities. Examples include expressing approval or disapproval of any activities or students behavior not related to reading, e.g., praising a student for an athletic endeavor, or being critical of a students' disruptive or inappropriate behavior in the classroom. Other examples are discussion of the weather, engaging in conversations with visitors, answering the door or intercom, giving directions about other activities. Other activities could be correcting work, making no direct responses to students at all, talking with another teacher, etc.

Student Behavior

Structure

The structure in which the student is being observed is determined primarily by the teacher but it may not always be immediately apparent to the observer. A teacher may approve a student's move from one structure to another at an earlier time, i.e., before the observer entered the room. The teacher's most recent direction will take precedence over any other directions previously given.

Direct Instruction (DI). This structure is coded whenever the teacher is directly involved with the student in a reading activity. Examples include teacher presenting a lesson to a group or the entire class of which the coded individual is a part, the student talking to the teacher about a reading assignment, or answering a question put by the teacher. The structure may be coded

for large group lessons or for individual student-teacher interaction.

Preparation (PR). This code describes activities which are required to prepare for reading tasks, either through direct instruction with the teacher or to be completed independently. Examples of such behavior include moving to an appropriate place in the room to begin reading activity, sharpening pencils, waiting for materials to be handed out, taking out materials to begin an assignment, waiting for or listening to instructions about preparation for reading activities.

Independent Work (IN). This code describes student behavior directly involved in reading tasks but not under the direct supervision of the teacher(s). Examples included here involve working independently at the student's desk, listening to a tape recorder through earphones, working with a language master, working at a learning center, or working with one or more students but not directly supervised by the teacher(s). If the child is working at his/her desk while the teacher is moving about the room interacting with one student at a time, the structure code would be IN. However, if the teacher was interacting with the student being coded, the structure would be DI.

Non-reading (NR). This structure is used to indicate that the student is not engaged in an activity that is related to the reading task. To be coded NR, the activity has to have the approval of the teacher. At times, teachers allow students to work or play at other activities after they have finished the assigned reading tasks. Students may then choose to talk to one another quietly, play a game independently or with another student, or work at another academic activity, such as math, social studies, art, etc. Again, please note that the code is used only if the student has teacher permission. Sharpening a pencil during reading is not coded NR if the student is preparing to complete a reading assignment.

Behavior

All student behavior is coded as ON or OFF, i.e., on-task or off-task as determined by the task assigned the student by the teacher. The behavior is coded immediately after the structure has been determined. Examples of each of the behaviors follow.

ON. On-task behaviors in a Direct Instruction setting include looking at the teacher, answering questions, following along in a workbook, watching another student read, talking with or listening to the teacher.

In Independent Work settings, on-task behavior would include working at a workbook, talking with other children about the reading activity, listening to a language master or tape recorder through earphones.

During a Preparation structure, on-task behavior includes getting ready to begin a task, waiting for and taking materials handed out, listening to instructions on how to begin or where to go for the tasks to be completed.

If Non-reading activities have been allowed, all behaviors are coded on-task, unless the teacher is very clear in stating which activities are not allowed or which behaviors are not condoned.

OFF. The off-task code includes all student behaviors not directly related to the reading tasks given or approved by the teacher during the observation period. The behaviors are clearly incompatible with the completion of reading activities. Examples of off-task behaviors include looking at anything other than the work assigned by the teacher, talking to other students about nonreading activities or materials, playing with students, being disruptive, not watching while the teacher is presenting information, materials, or giving directions, being out-of-seat, wandering around the room, sleeping, or making loud noises.

During NR structure, off-task behavior may be coded only if the teacher has made it very clear which behaviors are not acceptable at this time. Behaviors which may be mentioned include loud noisy activity or fighting with others.

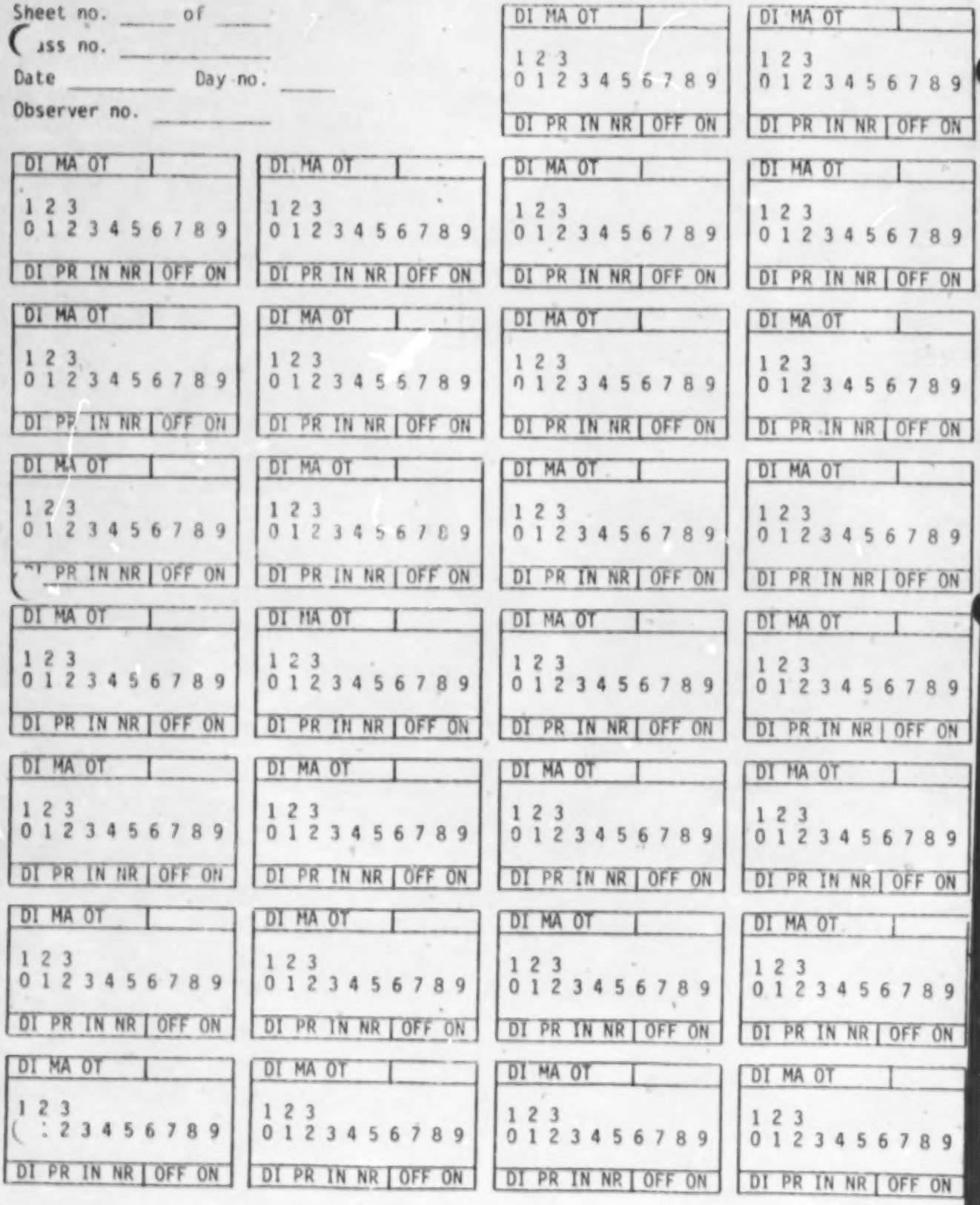
61

Sheet no. _____ of _____

Class no. _____

Date _____ Day no. _____

Observer no. _____



GLOSSARY

List of Terms Defined

Basal Reading Series

Decoding

Direct Instruction

DISTAR

Individualized Reading Instruction

Phonics

Phonics - Linguistic Approach

Readability

Reading Comprehension

District 4J Reading Scope and Sequence

Scope and Sequence Tests

Study Skills

DEFINITION OF TERMS

Basal Reading Series. A "total reading program" used by some 80 percent of all teachers of reading. Series using this approach have most of the following characteristics:

a. Vocabulary introduced slowly and repeated often.

b. Control of vocabulary is based on frequency of usage of words rather than on a sound-symbol relationship.

c. Word analysis is introduced gradually, and generally after having developed some "sight words."

d. Students are encouraged to use context, structural analysis, and picture clues as further aids to word recognition.

e. Emphasis from the beginning centers not only on word recognition, but also on comprehension of what is read.

f. Silent reading has an early emphasis.

g. Reading skills are introduced and developed systematically.

Materials used with the basal reader approach consist of a teacher's manual, student's reader (a collection of stories and selections for students to read), and workbooks used by the students for additional practice. Most series have a pre-reading program, pre-primer and readers for grades one through six (eight).

Examples of basal reading series are the Ginn, Houghton Mifflin, Scott Foresman, and Macmillan series.

Decoding. The ability to pronounce words by the sound elements of graphic symbols. (Sometimes used synonymously with phonics.)

Direct Instruction. Direct Instruction is defined in the definition of DISTAR.

DISTAR. DISTAR is a commercial reading program that illustrates direct instruction procedures. Direct Instruction refers to a set of teaching procedures designed to maximize student academic success. While the procedures can benefit all students, they are particularly helpful for lower performing students. The table below lists the procedures that define Direct Instruction and illustrate how these procedures are followed in DISTAR.

Direct Instruction Procedures	Illustration From DISTAR
1. Teaching students strategies for working different types of problems (rather than teaching students to memorize large amounts of information.	1. In early reading instruction students do not memorize lists of words, rather they learn sounds and a strategy for sounding out words.
2. Providing adequate practice and review when memorization is necessary.	2. Since the sounds for the various letters must be memor[illegible] sufficient practice and review is provided to ensure success.
3. Breaking complicated strategies down into small steps and teaching a few steps at a time.	3. The sounding out strategy is broken down into component skills and these are taught before students are expected to sound out words.
4. Introducing new skills only after the students master previously introduced skills.	4. New sounds are not introduced until students master previously introduced sounds.
5. Emphasize important information so that mistakes are minimized.	5. Similar sounds are not introduced at the same time, which reduces confusion mistakes.
6. Giving students frequent feedback and ensuring that students benefit from the feedback.	6. During the first several months of instruction, students often respond 200 to 300 times during a lesson. The teacher gives a feedback to all responses.
7. Individualizing instruction by placing and moving students through instructional programs in an optimal fashion and providing needed remediation.	7. Early instruction is done in small groups which allows for individualization.
8. Spending instructional time on essential skills only.	8. Readiness instruction focuses on sounds and blending which prepare students for sounding out.
9. Increasing the amount of instructional time.	

Individualized Reading Instruction. This approach is based on the idea that children read better, more widely, and with increased interest when permitted to select their own reading materials. Individualized reading is often referred to as the self-selection and self-pacing approach to reading.

Phonics. The study of the speech equivalents of printed symbols and their use in pronouncing written words.

Phonics - Linguistic Approach. While this approach has common characteristics of various approaches to teaching reading and resembles, to a great extent, a basal reader approach, it differs in the following:

a. Vocabulary is controlled on the basis of sound-symbol correspondence. (It is similar to the linguistic method.)
b. Vocabulary is introduced rapidly. (As opposed to slow introduction in the basal reader.)
c. Initial vocabulary development is different. (All related words with the same pattern are introduced, such as farm, charm, arm, etc.)
d. Visual aids used are somewhat different. (Much less reliance on pictures. "Sound" cards serve as aids to reinforce sounds of letters.)

The Lippincott series is an example of the phonic-linguistic approach.

Readability. Readability formulas attempt to measure the difficulty of texts. They are not precise measurement tools, but give a general indication of difficulty level. (See Table VI-1 comparing the books most commonly used in Eugene.)

Reading Comprehension. Comprehension is the capacity for understanding written materials. It may be considered in terms of four categories related to thinking qualities: literal comprehension, inferential comprehension, interpretive comprehension and creative comprehension.

District 4J Reading Scope and Sequence. This is a district publication which specifies which reading skills will be taught and in what order. Three hundred and seven skills for grades one through six are identified in the August, 1977 revision of the Scope and Sequence. For example,

there are sixty-seven skills listed on the sixth grade list. The Reading Scope and Sequence referred to in this report was initially developed in 1972 as a means of providing continuity in the teaching of reading within the district. While not intended to restrict individual schools in their approach to teaching reading, the Reading Scope and Sequence, nevertheless, lists reading skills which should be uniformly taught at each grade level, one through six, to ensure that students learn the material taught at each successive grade level.

Scope and Sequence Tests. These tests have been constructed in the last four years by district-funded committees to accompany the district's Reading Scope and Sequence. Each test is designed to test a specific skill at a specific grade level. There are seventy-five tests and they cover approximately one quarter of the grade specific skill lists.

Study Skills. Generally, study skills refer to the ability to use parts of books to get information. This skill is important in science, social studies, math and other subject areas, once the act of learning to read has been mastered. Study skills often include the use of reference materials, dictionaries and telephone directories, library use, and other sources of information needed in the subjects listed above. For example, the District 4J Reading Scope and Sequence lists twenty-five sixth grade study skills.